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Patent Application Serial No.: 09/993,733)
Filing Date: November 21, 2001)
For: Concrete Formworks And Method Of)
Making Same)
Inventor: Gregory D. Johnson)

Group Art Unit: 1772
Examiner: Augehenbaugh,
Walter
Docket No: 13190.101
Attachment to Paper No.: 12

OFFICIAL

SUPPLEMENTAL DECLARATION OF EDWARD RAHE

1. I, Edward Rahe, am currently Vice-President of Engineering for Symons Corporation. Symons is the leading manufacturer of concrete formworks and shoring in the United States. I am a Professional Engineer and have worked in the area of concrete formworks for thirty-eight years. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true.

2. I have read and am familiar with the claims currently in the application, and I have read and am familiar with United States Patent No. 5,030,488 issued July 9, 1991 to Igor Sobolev (hereinafter "Sobolev"), and United States Patent No. 4,842,241 issued June 27, 1989 to John M. Fitzgerald et al. (hereinafter "Fitzgerald et al."). I have also read the Advisory Action dated 10/23/2003 provided by the Examiner in this application.

3. I submit this Declaration to present to the Examiner facts concerning the patentability of the claims in the application, including bringing to the attention of the examiner, in an authenticated manner, information relating to the patentability of the claims.

4. I incorporate by reference the Declaration of Edward Rahe submitted earlier in this patent application.

5. The Examiner states in the Advisory action that the patent according to the claimed invention, i.e., "the McCormick Panel" was not compared to "the closest prior art commensurate in scope to the claims".

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6. I am not sure what the Examiner means by the above statement, but I thought I did compare it to the closest prior art panel, i.e., the panel it is will replace, namely, the HDO panels which are the most common concrete forming panels on the market today.

7. However, perhaps the Examiner means that I need to compare it to a concrete forming panel made of a metal/plastic laminate.

8. I attach as Exhibit C a summary of the deflection test performed on ten of the best panels I have tested in the last three years, arranged in descending order of how they performed, which is ascending order of deflection. The metal/plastic laminate panel is designated "German 1/2". The other panels, except for the McCormick panel, are wood laminates or wood/epoxy laminates.

9. The German 1/2 panel is a half-inch thick laminate of aluminum and plastic. The plastic is a hard epoxy-type plastic, not high-density polyethylene, though I do not know the exact type of epoxy because the company that provided the panel did not disclose this to me. It is the best metal/plastic laminate panel I have ever tested prior to the McCormick panel.

10. All other metal/plastic panels I have ever tested were two to three times worse with respect to the deflection test. If there were another metal/plastic laminate panel that could be used as a concrete formwork panel out there, I would have seen it -- That's the nature of my job. Thus, I consider the German 1/2 panel as the closest prior art to the McCormick panel.

11. For example, I recently tested a metal/plastic laminate panel that tested at 0.090 for the 1008 PSF test and 0.120 for the 1512 PSF test. I have not included this panel in the graph because it does not come close to the best panels.

12. As you can see from the graph, all the previous best panels are in a range of about 0.032 to 0.036 for the 1008 PSF test and 0.048 to 0.052 for the 1512 PSF test.

13. As you can also see from the graph, the McCormick 3/8 inch panel tested about 10% better than the German 1/2 inch panel.

14. Mr. Forest tells me that the approximately 10% difference between the two

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may not seem like much to someone not familiar with the concrete formwork art. However, to me, this is a big difference. All the really good panels I test regularly are within a few percent of each other. So 10% is a significant difference to one skilled in the art of concrete formwork panels.

15. A more appropriate comparison is between the McCormick ½ inch panel and the German ½ inch panel. As you can see, the McCormick ½ inch panel gives more than 25% better results.

16. To me, a 25% difference is really amazing. For years I have tested panels, none of which have gotten much below 0.033 inches for the 1008PSF test and 0.050 inches for the 1512 PSF test. To suddenly find one that gets down to 0.028 inches and 0.038 inches, respectively, is quite shocking.

17. I should also note that people regularly bring me solid plastic panels, like the one in the Fitzgerald et al. patent, for testing. All of these are way off scale with respect to deflection. They invariably pillow under the field tests. Solid plastic panels like the Fitzgerald et al. panel could be considered only as throw-away panels, at the very best. Fitzgerald suggests this when he states in column 1, line 7 that the are used for forming test specimens.

18. To one skilled in the art of concrete formworks, the term "formwork panel" refers only to panels that can be connected to other panels to make a formwork, and then disassembled and used again in another formwork that usually is completely different.

19. To one skilled in the art of concrete formworks, the Fitzgerald et al. device is a mold, not a formwork.

20. Concrete formwork panels have to take a lot of abuse. The environments in which they are used are brutal. One skilled in the art would not read Fitzgerald et al. and Sobolev and come to the conclusion that high-density polyethylene could be laminated with steel to make a quality concrete formwork panel.

21. For one thing, Fitzgerald does not teach anything about how polyethylene would laminate to steel and how the steel/plastic laminate will stand up to abuse. For another thing, my experience with plastic and plastic laminate panels is that few of them

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hold up to the deflection criteria, and thus to assume that a particular plastic will work in combination with a particular metal or wood is pure speculation.

22. I noted in my previous Declaration that the core of the steel/plastic laminate in Sobolev cracked under the impact test. The Examiner argues that because a panel that was made with aluminum and a "slightly more flexible epoxy resin mixture" did not crack, that one skilled in the art would reason that if a steel panel were made with the "slightly more flexible epoxy resin mixture" it would work. I do not agree for the reason given above.

23. I would assume from Sobolev that he did not include the steel laminate with the "slightly more flexible epoxy resin mixture" because it did not work.

24. The Examiner also minimizes the significance of "slight cracking" under an impact test. It is in the nature of concrete formworks to be subjected to impacts. If something cracks, even slightly, one skilled in concrete formworks would not use it.

25. The Examiner also argues that one skilled in the art would be motivated by Sobolev "to determine the optimal value of gas by volume". I do not agree.

26. First of all, at column 22, lines 13 – 15, Sobolev states: "In a number of cases, core density reductions of 30% were readily achieved without loss of important laminate properties."

27. The above statement suggests, that core density reductions of greater than 30% do result in loss of important laminate properties. In fact, because the statement is preceded by the phrase "in some cases", this tells me that in the majority of cases, core density reductions of 30% resulted in loss of lamination properties.

28. Further, delamination is very serious in concrete formwork panels. Concrete formwork panels are expected to last for years if used every day, and up to 5 years if not used regularly, and delamination problems often do not show up until well after sale.

29. Delamination problems almost always result in returns, which are costly, and sometimes loss of a sale. Thus, before adopting a panel with a density reduction different than that disclosed in Sobolev, a prudent person skilled in the art would make a panel, test it over a period of at least months, make another panel, etc. If Sobolev can be believed,

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some of these would delaminate or crack, and then new panels would have to be made, followed by new tests. Thus, in a commercial concrete formwork environment, it would take years to experiment as the Examiner suggests to determine an optimum value of gas by volume. However, more likely, one skilled in the art would not even bother to perform such experiments, for the reasons given above.

30. In summary, based on Sobolev, one skilled in the art would avoid core density reductions of greater than 30%.

31. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: February 2, 2004 By: Edward Rahe P.E.
Edward Rahe, P.E.

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